

FAX

To: Mr. Bai Vu

From: Angel Palacios

Date: ~~Jun 10th, 2008~~ JUNE 19th, 2008

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Number of pages: cover + 41

Dear Mr. Vu,

I would like to have a phone interview to discuss about the Office Action regarding application 10/599,384.

I am aware that there is not much time till the end of the allowed response time. Therefore, if might not be possible to have such interview. In that case, I would very much appreciate it if you could quickly inspect the draft version of the Amendment which I attach to this fax.

In case that we can have the telephone interview, the main issues that I would like to debate with you are:

1. Compliance of the amendments with formal requirements in general
2. Wording of claim 32. Claim 32 is a computer program claim and was objected in point 8 of the Office Action. I would like to request your assistance as to how to manage it. I have seen several granted patents with computer program claims, but I am aware that this is a difficult issue.
3. Comparison between the current application and the Greef patent, in particular about the existence of criterion nodes. Criterion nodes exist in my patent application, but they do not exist in the Greef patent. I consider this to be a very important difference between both patents.

Thank you very much

Best regards



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DRAFT AMENDMENT

In the United States Patent and Trademark Office

Serial Number: 10/599,384
Appn. Filed: 2006 September 27
Applicant: Angel Palacios
Appn. Title: Organiser for complex categorisations
Examiner/GAU: Mr Bai D. Vu / 2165

Madrid, 2008 June 10 Tuesday

DRAFT AMENDMENT A

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir,

In response to the Office Action mailed 12/21/2007, please amend the above application as follows:

SPECIFICATION: Amendments to the specification begin on page 2 of this Amendment.

CLAIMS: Amendments to the claims begin on page 4 of this amendment

DRAWINGS: A statement explaining the drawing amendments begins on page 13 of this Amendment.

REMARKS: Remarks begin on page 14 of this Amendment

SPECIFICATION

Page 16, Please insert these paragraphs before the heading in line 25.

An approach to solve the multicriteria classification problem is disclosed in the US patent application 2005/0065955, filed by Babikov et al. Their invention has a feature that we can call Criteria Replication. This feature can be seen in Figure 12 of the application. And it is described in paragraph 0177, where it is stated that "If an available free criterion is not used for a specialization, it will stay available at the next specialization level, thereby appearing again in the list of free criteria". This feature is related to the way the Babikov invention solves the multicriteria problem. It adds some benefits, but it also creates the strong disadvantage of tremendously increase the number of nodes and subtrees, thus creating a higher complexity for the user.

Page 17, paragraph in lines 18-22, please replace with the following paragraph:

Figure 2 shows a block diagram of the preferred embodiment, in which the following components can be seen: a display 2001 to observe the performance of the invention; a processing unit 2002 that produces the functionality of the invention; some interaction means 2003, which would be for example a mouse, a keyboard, an optical pen or other means; and a memory 2004 that contains some data which in turn contains the categories, criteria and instances that are being classified by the invention.

Page 20, paragraph in lines 1-5, please replace with the following paragraph:

In this embodiment, the invention can be used via an independent computerized system 4002, to which the invention is linked by a telecommunication system 4003. The data are managed by the processor 4001, and they can be contained in the memory 4001b, along with the processor, or they might be distributed, such as for example in the memories 4005, 4006, 4007, 4008, to which the unit 4001 would link by a telecommunications system 4004.

Page 22, please insert this paragraph at the end of page 22.

Given that the invention is a computerized invention, it is understood that a computer program can carry the essential means so to realize the invention when installed in a computer. Therefore, two ways in which the invention can be embodied are the following ones:

1. In a computer program that directs the processor of a computer to perform the steps described in this patent.
2. In a computer readable medium, such as a CD, a DVD, a hard drive, a floppy disk or any other type of computer readable medium, that carries the aforementioned program.

CLAIMS: The following is a listing of all claims in the application with their status and the text of all active claims.

1. (CURRENTLY AMENDED) A computerized classification system, ~~[comprising the following means]~~ comprising:
- (a) a processor, for organizing entities that have different types.
 - (b) means for organizing some or all of said entities in a tree, with parent-child relationships, so that said entities correspond to the nodes of said tree, where it is not necessary that a graphical representation of said tree exists,
 - (c) means for managing, at least, category-entities and criterion-entities, and optionally also instance-entities,
 - (d) a memory, for storing the data associated to said entities,
- wherein:
- i said instance-entities ~~[might]~~ correspond to objects, concepts, events, characteristics, ideas or ~~[other entity type]~~ any type of object belonging to any realm of reality,
 - ii the purpose of said category-entities is to create different classes to which said instance-entities can be assigned,
 - iii the purpose of said criterion-entities is to create different classification criteria, after which different category-entities can be created,
 - iv ~~[said criterion-entities can be child nodes of the category-entities could alternate, so that a criterion entity could be the parent of a category entity and vice versa, and a criterion entity can be parent of other criterion-entities,]~~
 - v at least one of said criterion-entities is:
 - a. the child node of one of said category entities, or
 - b. the child node of another one of said criterion entities, or
 - c. the child node of one of said category entities and the child node of another one of said criterion entities.
 - vi at least one of said criterion-entities is not added in a criteria replication group.

~~wherein said system can be of different types, such as for example one of the following ones:~~

- ~~— an independent computerized system that comprises a screen and other means,~~
- ~~— a computerized system that might not have a screen but which comprises telecommunication means for the user of the invention to connect with said system, in a way that in order for said user to establish said connection, said user might use a second computerized system that might have a screen,~~

~~— a different type of system with different characteristics.~~

2. (CURRENTLY AMENDED) The [A] system as claimed in claim 1, further comprising means for showing an arboreal structure that represents said tree, ~~[wherein there might exist different ways to implement said arboreal structure,]~~ wherein ~~[it is possible that]~~ all of the instance-entities, or only part of them, or none of them appear in said arboreal structure, ~~where it happens that:~~
 - i ~~the instance entities that appear in said arboreal structure could be represented as belonging to all the category entities to which they belong or only to some of them,~~
 - ii ~~in said arboreal structure, the criterion entities and the category entities could alternate, so that a criterion entity could be the parent of a category entity and vice versa, and a criterion entity can be parent of other criterion entities,]~~and wherein in ~~[such]~~ said arboreal structure, the category-instances that are child nodes of criterion-instances can have the same level of indentation or a different level of indentation as said parent criterion-instances.
3. (DELETED)
4. (CURRENTLY AMENDED) The [A] system as claimed in claim 2, further comprising means for emphasizing the criterion-entities with respect to the rest of entities in said structure, wherein said means ~~[could be for example]~~ comprises one or more of the following means: a special text, a special font type, or a special font format ~~[, or other means].~~
5. (DELETED)
6. (DELETED)
7. (DELETED)
8. (CURRENTLY AMENDED) The [A] system as claimed in claim 2, further comprising means for modifying said tree wherein said modifying comprises adding or removing entities.~~[—such as for example for adding or removing entities—without requiring to modify the number of controls that exist in the graphical interface in which said arboreal structure is shown, so that the only modification that is necessary to make is to modify the set of nodes that exist in said arboreal structure.]~~

9. (CURRENTLY AMENDED) The [A] system as claimed in claim 2, ~~[further comprising means for categorizing instance entities in such as way that the user adds an instance entity in different positions of said arboreal structure and said system creates a classification for said instance entity that reflects the category entities that appear as parent node of said instance entity.]~~ further comprising:

- (a) means for adding at least one instance entity as child node of one or more category entities,
- (b) means for identifying said one or more category entities,
- (c) means for creating a classification string that comprises the codes of said one or more category entities,
- (d) means for assigning said classification string to said instance entity.

10. (DELETED)

11. (CURRENTLY AMENDED) The [A] system as claimed in claim 1, further ~~[comprising]~~ comprising:

- (a) means for adding at least one instance entities as child nodes of one or more category entities,
- (b) means for identifying the criterion-entities that are complete, incomplete and neutral, for said instance entities,

so that the user can assess whether there exist too many selected category-entities or too few, in order to make a correct ~~[categorization]~~ classification of one or more instance-entities.

12. (CURRENTLY AMENDED) The [A] system as claimed in claim 1, further ~~[comprising means for performing searches on instance entities, so that the search strings are built after one or more category entities or instance entities that might have been selected.]~~ comprising:

- (a) means for choosing one or more category entities
- (b) means for identifying the codes that are associated to said one or more category entities that have been chosen.
- (c) means for creating a search string which comprises said codes and optionally one or more boolean operators.

13. (CURRENTLY AMENDED) The [A] system as claimed in claim 1, further comprising:

- (a) means for classifying instance-entities by using ~~[certain]~~ classification strings, wherein:
 - i said classification strings are character strings,

- ii said classification strings are characterized by being a concatenation of ~~[the]~~ a plurality of codes [assigned to said instance-entities], wherein said plurality of codes [can be of several types, such as for example] comprises one or more of the following types of codes:

codes of one or more of the category-entities to which each instance-entity is assigned,
 codes of one or more of the criterion-entities [to which said category-entities belong]
which are ancestor nodes to said category-entities,
~~[other types of codes,]~~

- iii said classification strings comprise certain separating characters that allow to distinguish where each of the codes starts and ends, with the purpose of eliminating the ambiguity created by the same characters existing in different codes,
- (b) ~~[and wherein there exist]~~ means for storing said classification strings in a database, ~~[so that they can be]~~ either stored in a single field or in several fields in a disaggregated fashion ~~[-and wherein said database can be a relational database or other type of database].~~

14. (CURRENTLY AMENDED) The [A] system as claimed in ~~[claim 11]~~ claims 12 and 13, ~~[further comprising means for searching instance-entities by using said classification strings, wherein said search is based on finding the instances in whose classification strings there exist certain sets of characters, for which said means can use mechanisms such as the expression "LIKE" of SQL (Structured Query Language) or other similar mechanisms.]~~ further comprising:

- (a) means for creating a database query by ~~[adding]~~ inserting operators of a database query language, wherein one of these operators can be the operator "LIKE" of SQL (Structured Query Language) to said search string of claim 12,
- (b) means for executing a search over instance-entities by applying said database query to said field or fields which contain said classification strings of claim 13.

15. (ORIGINAL) A computerized method for classifying entities of different types, comprising the following steps:

- (a) adding category-entities and criterion-entities to the classification and, optionally, also adding instance-entities, wherein
- a. said instance-entities ~~[might]~~ correspond to objects, concepts, events, characteristics, ideas or ~~[other entity type]~~ any type of object belonging to any realm of reality,
 - b. the purpose of said category-entities is to create different classes to which said instance-entities can be assigned,

- c. the purpose of said criterion-entities is to create different classification criteria, after which different category-entities can be created,
- (b) organizing some or all of said entities in a tree, with parent-child relationships, so that said entities correspond to the nodes of said tree, where it is not necessary that a graphical representation of said tree exists, and wherein:
 - i at least one of said criterion-entities is:
 - a. the child node of one of said category entities, or
 - b. the child node of another one of said criterion entities, or
 - c. the child node of one of said category entities and the child node of another one of said criterion entities.
 - ii at least one of said criterion-entities is not added in a criteria replication group.

~~[wherein said method is based on a computerized system that can be of different types, such as for example one of the following ones:~~

- ~~i an independent computerized method that comprises a screen and other means;~~
- ~~ii a computerized method that might not have a screen but which comprises telecommunication means for the user of the invention to connect with said method, in a way that in order for said user to establish said connection, said user might use a second computerized method that might have a screen;~~
- ~~iii a different type of method with different characteristics.]~~

16. (CURRENTLY AMENDED) The [A] method as claimed in claim 15, further comprising the step of showing an arboreal structure that represents said tree, ~~[wherein there might exist different ways to implement said arboreal structure,]~~ wherein it is possible that all of the instance-entities, or only part of them, or none of them, appear in said arboreal structure, ~~[and where it happens that:~~
- ~~i the instance-entities that appear in said arboreal structure could be represented as belonging to all the category entities to which they belong or only to some of them;~~
 - ~~ii in said arboreal structure, the criterion-entities and the category entities could alternate, so that a criterion entity could be the parent of a category entity and vice versa, and a criterion entity can be parent of other criterion entities,]~~
- and wherein in [such] said arboreal structure, the category-instances that are child nodes of criterion-instances can have the same level of indentation or a different level of indentation as said parent criterion-instances.

17. (DELETED)

18. (DELETED)

19. (DELETED)

20. (DELETED)

21. (DELETED)

22. (CURRENTLY AMENDED) The [A] method as claimed in claim 16, further comprising the step of modifying said tree, wherein said modifying comprises adding or removing entities.~~— such as for example for adding or removing entities— without requiring to modify the number of controls that exist in the graphical interface in which said arboreal structure is shown, so that the only modification that is necessary to make is to modify the set of nodes that exist in said arboreal structure.~~

23. (CURRENTLY AMENDED) The [A] method as claimed in claim 16, ~~[further comprising the step of categorizing instance entities in such as way that the user adds an instance entity in different positions of said arboreal structure and said system creates a classification for said instance entity that reflects the category entities that appear as parent node of said instance entity.]~~ further comprising the steps of:

- (a) adding one or more instance entities as child nodes of one or more category entities,
- (b) identifying said one or more category entities,
- (c) creating a classification string that comprises the codes of said one or more category entities,
- (d) means for assigning said classification string to said instance entity.

24. (DELETED)

25. (CURRENTLY AMENDED) The [A] method as claimed in claim 15, further comprising the steps of:

- (a) adding at least one instance entities as child nodes of one or more category entities,

(b) identifying the criterion-entities that are complete, incomplete and neutral, for said instance entities,

so that the user can assess whether there exist too many selected category-entities or too few, in order to make a correct categorization of one or more instance-entities.

~~[the step of categorizing instance-entities, where said step comprises the following substeps:~~

~~(a) said classification strings are character strings,~~

~~(b) automatically identifying the criterion-entities that are complete, incomplete and neutral, so that the user can assess whether there exist too many selected category-entities or too few.]~~

26. (CURRENTLY AMENDED) The [A] method as claimed in claim 15, further ~~[comprising the step of performing searches on instance-entities, so that the search strings are built after one or more category-entities or instance-entities that might have been selected.]~~ comprising:

(a) choosing one or more category-entities

(b) identifying the codes that are associated to said one or more category-entities that have been chosen

(c) creating a search string which comprises said codes and optionally one or more boolean operators.

27. (CURRENTLY AMENDED) The [A] method as claimed in claim 15, further comprising the [step] steps of:

(a) classifying instance-entities by using ~~[certain]~~ classification strings, wherein:

i said classification strings are character strings,

ii said classification strings are characterized by being a concatenation of ~~[the]~~ a plurality of codes [assigned to said instance-entities], wherein said plurality of [codes can be of several types, such as for example,] comprises one or more of the following types of codes:

codes of one or more of the category-entities to which each instance-entity is assigned,

codes of one or more of the criterion-entities [to which said category-entities belong] which are ancestor nodes to said category-entities,

~~[other types of codes,]~~

iii said classification strings comprise certain separating characters that allow to distinguish where each of the codes starts and ends, with the purpose of eliminating the ambiguity created by the same characters existing in different codes,

(b) ~~[and wherein said classification strings might be stored]~~ storing said classification strings in a database, [so that they can be stored] either in a single field or in several fields in a

disaggregated fashion [~~and wherein said database can be a relational database or other type of database~~].

28. (CURRENTLY AMENDED) The [A] method as claimed in ~~[claim 27]~~ claims 26 and 27, ~~[further comprising the step of searching instance entities by using said classification strings, wherein said search is based on finding the instances in whose classification strings there exist certain sets of characters, for which said means can use mechanisms such as the expression "LIKE" of SQL (Structured Query Language) or other similar mechanisms]~~ further comprising the steps of:

- (a) creating a database query by [adding] inserting operators of a database query language, wherein one of these operators can be the operator "LIKE" of SQL (Structured Query Language) to said search string of claim 26.
- (b) executing a search over instance entities by applying said database query to said field or fields which contain said classification strings of claim 27.

29. (DELETED)

30. (DELETED)

31. (DELETED)

32. (CURRENTLY AMENDED) A computer program that, when executed by one or more processors of a computer, allows said one of more processors to perform the method of claim 15. ~~[following steps:~~

- (a) ~~creating a classification of entities,~~
- (b) ~~adding category entities and criterion entities to the classification and, optionally, also adding instance entities, wherein~~
 - ~~i said instance entities might correspond to objects, concepts, events, characteristics, ideas or other entity type belonging to any realm of reality,~~
 - ~~ii the purpose of said category entities is to create different classes to which said instance entities can be assigned,~~
 - ~~iii the purpose of said criterion entities is to create different classification criteria, after which different category entities can be created,~~

- (c) ~~organizing some or all of said entities in a tree, with parent child relationships, so that said entities correspond to the nodes of said tree, where it is not necessary that a graphical representation of said tree exists.]~~
33. (CURRENTLY AMENDED) A computer readable medium containing computer executable instructions that, when interpreted by one or more processors of a computer, allows said one of more processors to perform the method of claim 15. ~~[the following steps:~~
- (a) ~~creating a classification of entities,~~
- (b) ~~adding category entities and criterion entities to the classification and, optionally, also adding instance entities, wherein~~
- i ~~said instance entities might correspond to objects, concepts, events, characteristics, ideas or other entity type belonging to any realm of reality;~~
- ii ~~the purpose of said category entities is to create different classes to which said instance entities can be assigned;~~
- iii ~~the purpose of said criterion entities is to create different classification criteria, after which different category entities can be created;~~
- (c) ~~organizing some or all of said entities in a tree, with parent child relationships, so that said entities correspond to the nodes of said tree, where it is not necessary that a graphical representation of said tree exists.]~~
34. (NEW) The system of claim 1 wherein at least one of said category entities is the child node of another one of said category entities.
35. (NEW) The method of claim 15 wherein at least one of said category entities is the child node of another one of said category entities.
36. (NEW) The method as claimed in claim 16, further comprising the step of emphasizing the criterion-entities with respect to the rest of entities in said structure, wherein said step comprises one or more of the following substeps: a special text, a special font type, or a special font format.

DRAWINGS:

The attached sheet (sheet1 1/2) of drawings include changes to Figure 2, and replaces the original sheet 1/2 with Figures 1 and 2. In Figure 2, previously omitted reference descriptive textual labels have been added. A copy of sheet 1/2 is faxed along with this Amendment, and a new copy will be mailed separately.

The attached sheet (sheet 2/2) of drawings include changes to Figure 4, and replaces the original sheet 2/2 with Figures 3 and 4. In Figure 4, previously omitted reference descriptive textual labels have been added. A copy of sheet 2/2 is faxed along with this Amendment, and a new copy will be mailed separately.

REMARKS:**General**

By the above amendment, applicant has amended the specification to introduce certain terms that will allow a clearer wording of amendments to claim 1 and 15. Also, applicant has amended the Specification to provide an enhance description of Figures 2 and 4.

Applicant has amended the drawings as indicated to correct missing text labels.

Also, applicant has amended several claims to define the invention more particularly and distinctly to overcome the technical objections and to better define the invention over prior art. The prior art that has been contemplated in more detail are:

1. US patent application 2005/0065955 (the Babikov application),
2. US patent 6,760,721 (the Chasen patent) and
3. US patent 6,167,396 (the Lokken patent).

Detailed description of the amendments performed on each claim

In order to facilitate the Examiner the inspection of the claim amendments, the most important ways in which claims have been amendment are summarized in this section. The next sections in this amendment provide the reasoning behind these amendments:

Claim 1:

- A processor and a memory have been explicitly included in the claim as to comply with technical objections in the Office Action. Some parts of the claim related to these aspects have been eliminated in order to make a clearer wording.
- The term ‘type of object’ has been used to replace ‘entity type’ in order to more clearly present the claim.
- Point v.a. is included to define the invention over the Chasen patent.
- Point v.b. is included to define the invention over the Chasen patent and the Babikov patent.
- Point vi. is included to define the invention over the Babikov patent.

Claim 2:

Some parts of the claim have been eliminated in order to make a clearer wording.

Claim 4:

The wording has been changed in order to comply with formal objections.

Claim 8, 9, 10, 11, 12:

A clearer wording is provided.

Claim 14:

A clearer wording is provided and change of dependence. Originally, this claim was dependent on claim 11, rather on claim 13 which was the previous claim. The amendment also makes this claim dependent on claim 12.

Claim 15:

Amendment follows the amendment to claim 1, the system version of this claim.

Claim 16:

Amendment follows the amendment to claim 2, the system version of this claim.

Claim 22:

Amendment follows the amendment to claim 8, the system version of this claim.

Claim 23:

Amendment follows the amendment to claim 9, the system version of this claim.

Claim 25:

Amendment follows the amendment to claim 11, the system version of this claim.

Claim 26:

Amendment follows the amendment to claim 12, the system version of this claim.

Claim 27:

Amendment follows the amendment to claim 13, the system version of this claim.

Claim 28:

Amendment follows the amendment to claim 14, the system version of this claim.

Claims 32 and 33:

Both claims have been made directly dependent on claim 15 in order to facilitate inspection of the claim.

Claim 34:

The new wording further defines the invention over the Babikov patent.

Claim 35:

Amendment follows the amendment to claim 34, the system version of this claim.

Claim 36:

It is a new claim, and it is the method version of claim 4

Remarks according to Objection 4

(A descriptive textual label was required for two drawings)

New drawing sheets are provided as requested in this objection.

Remarks according to Objection 5

(The expressions “A system” and “A method” were objected)

Claims have been amended as requested in this objection.

Remarks according to Objection 6

(Claim 33 was objected as there was no definition provided in the specification of the term “computer readable medium”).

The specification has been amended to provide definitions and context for claim 33.

Remarks according to Objection 8

(Several claims were objected as being directed to non statutory subject matter)

Claim 1 has been amended to better define the physical properties of the system sought to be protected.

Applicant respectfully requests assistance from the Examiner as to how rewrite claim 33 in a manner that complies with 35 U.S.C.

Remarks according to Objection 10

(Several claims were objected as being indefinite)

Claims have been amended to eliminate words that render claims indefinite or ambiguous.

Remarks according to Objection 12

(Several claims were objected under U.S.C. 102(b) as being anticipated by Greef et al (US Pat 6,397,221)

(The analysis of the objections will be carried out upon the system claims. Applicant considers that the same reasoning can be applied to the method version of those claims)

In the analysis that follow, the word “node” and the word “entity” are used with a similar meaning. A node is part of a tree. An entity is an element of the world. Because the entities are organized in the tree, each entity takes the place of a node. Hence, the words “node” and “entity” will be used interchangeably in the analysis.

In any classification, there are three types of entities:

1. Instance entities: these are the objects of the world that are to be classified.
2. Category entities: these are the groups of objects that are created in the classification. Instance entities (the objects) in a category entity (in a group) share one or more characteristics.
3. Criterion entities: these are the criteria used to define the groups. For example, if objects are computers, one criteria can be whether the objects have a type of hard drive, and other criteria can be whether the objects have one or two disc units.

What the user need is a way to organize the three types of entities in a simple yet powerful fashion. This is what the current application provides.

Regarding Claim 1

Applicant considers that classification system disclosed in the Greef patent is different from the classification system disclosed in the current patent application.

It is recognized that there might be a semantic ambiguity in the wording of Claim 1, in what respects to the utilization of the word “entity” when referring to the types of instance-entities. It uses the word “entity” in with two different meanings, and that might be misleading:

1. On the one hand, the word is used to identify the different kinds of nodes “criterion entities”, “category entities” and “instance entities”.
2. Then, it is also used to indicate that “instance entities” can correspond to any entity type belong to any realm of reality. This sentence will be amended to say that “instance entities can correspond to any object type in any realm of reality”.

Therefore, the claim will be amendment to make this part clearer.

Apart from that, the following paragraphs will deeply explain the differences between the current application and the Greef patent. The main difference is that the current application discloses the utilization of different types of nodes: nodes which are “category-entities” and nodes which are “criterion-entities”, while the Greef patent discloses only the utilization of nodes which are categories. (Also, nodes which are instances are present in both inventions).

This is to say, nodes in the Greef patent are all of the same type (categories) that correspond to different objects in the real world (Portable Systems, Desktop Systems, Laptop Systems and so on). But they are all the same type of node: just categories.

In contrast, the nodes in the current application are at least of two types:

- Category entities (just categories) : these are the usual nodes in all classifications. They are entities that restrict the part of the world to which its offspring belong. Category nodes can be the parent nodes to instance entities or parent nodes to other category entities.
- Criterion entities: these entities are the main feature in the present patent application:
 - Criterion entities do not restrict the part of the world to which its offspring belong. They just indicate a criterion that defines the categories that come after.
 - Therefore, in a well formed classification, criterion entities will not be parent nodes to instance nodes. However, they can be parent nodes to other category nodes, or they can be child nodes to category nodes.

In order to better illustrate this difference, Exhibits 1 and 2 show a small classification that uses some categories present in Figure 4 of the Greef patent.

As shown in the Exhibits, a category entity “Portable Systems” can be a parent node to instance entity “.dell inspiron 6000.”, but a criterion entity “According to portability” cannot be the parent node of instance entity “.dell inspiron 6000.”. However, the criterion entity “According to portability” can be the parent node to a category entity “Portable Systems”.

Exhibit 1

According to portability

Portable Systems (Correct)

.dell inspiron 6000. (Correct)

Desktop Systems (Correct)

Exhibit 2

According to portability

.dell inspiron 6000. (Incorrect)

Desktop Systems

It must be emphasized the fact that the main difference between “criterion entities”, “category entities” and “instance entities” is formal and structural, and that it affects the way the tree can be formed and managed.

The invention provides a very simple yet powerful way to create and manage multicriteria taxonomies. Classification techniques are a very important part of informatics, and classifications are used in most websites. However, despite its importance, this has been a long standing problem in any classification system, especially in computerized classifications. It has not been adequately solved till now.

Traditionally, the way to approach this problem was double:

1. Create taxonomies in which categories that belong to different criteria are intermixed (as explained in the specification of the current application)
2. Create different computer controls for different criteria.

An evolution of solution 2 can be seen in some web sites that implement catalogs:

3. For example, in www.sears.com/shc/s/v_10153_Tools?adCell=AH. In these cases, several items are organized in a tree-like fashion, and there are some items that resemble criterion nodes. In the example above, the user can “search by category” (type) or can “search by brand”. These two phrases are similar to criterion nodes.

Three other patents and patent applications have been directed to partially solve the problem. These patents are analyzed in detail in the next sections, and briefly discussed here:

4. US Patent 6,167,396 (granted to Lokken): This patent presents a way to navigate multidimensional databases, which are a similar type of entity as multicriteria taxonomies. It allows the user to easily navigate the database, but it does not advance a solution for the creation and management of the objects in the database.
5. US Patent 6,760,721 (granted to Chasen et al): This patent is the first step towards introducing criterion nodes in a tree structure. It is a useful patent, but it is a limited solution, and it does not take the technique of criterion nodes as far as it can go.
6. US Patent Application 2005/0065955 (filed by Babikov et al): This invention uses criterion nodes in a broader way, but it is a complex solution that has a number of limitations, as will explained in the sections below.

The current patent application is a step forward with respect to the previous solutions. It uses criterion nodes in a most versatile way, and lacks the limitations of the alternative approaches to the problem.

The main difficulty in solving the problem was realizing that both criterion nodes and category nodes can be freely intermixed in a taxonomy, (category nodes being parent nodes to criterion nodes and criterion nodes being parent nodes to category nodes), thus providing much needed flexibility. Realizing this requires a conceptual leap that had not been previously done.

After having clarified the nature of Claim 1, applicant believes that the objections of the remaining dependent Claims should be interpreted with a different perspective. However, in what follows the objections to these claims will also be analyzed.

Regarding Claim 2

The main objection to Claim 2 is related to Fig 4, where it illustrates a plan for modification for organization 88, introducing a frame 278 shown in dotted lines, (col. 23 line 53 to col. 24 line 3).

Applicant considers that the new nodes shown in the frames 278 and 290 in dotted lines are category entities, and that have the same type as the categories 90 and 92. Despite the fact that they have different attributes (for example, having hard drive or not), this attributes merely serve to make the nodes be different types of categories, or host different types of objects (computers with hard drive and computers without hard drives)

This is to say, all these nodes could conceptually be parents of a hypothetical instance node "XYZ 6000." This instance could be the child node to any of them (providing that the technical characteristics of the laptop. So none of these nodes is a criterion nodes, because criterion nodes cannot be the parents to instance nodes.

Regarding Claim 4

After the clarification to claim 1, applicant considers that it is clear that the Greef patent does not contain criterion nodes. Because of that, criterion emphasizing is not a feature of the Greef patent.

At the same time, applicant considers that none of the nodes in Figure 5 in the Greef patent is emphasized. It can be seen that the text style and font of all the nodes is the same. And the actual text used is always the strict name for the category, without any additional text fragment such as "According to" or equivalent.

Regarding Claim 5

Greef, col 19, lines 36-51: Applicant considers that in this fragment Greef is disclosing a step by step process to manipulate entities, but it never mentions the showing of any summary tree that can provide the user with a fast way to check what nodes of the tree have been selected.

Regarding Claim 8

This claim has been now deleted.

Regarding Claim 9

Applicant considers that the cited fragments in the Greef patent do not disclose the same process by which instance entities are

4. Assigned to different category nodes
5. Given codes that correspond to the category entities to which they are assigned.

The claim is presented with a new wording to more clearly describe its nature.

Regarding Claim 10

This claim describes general computer processes. The newness of the claim is due to the fact that it is a dependent claim on claim 1

The method disclosed in the Greef patent is similar to the method disclosed in the current patent application. In fact, most classification systems allow for updating of the associated database.

The main difference in the current application is that the current patent application comprises criterion entities, which are introduced in claim 1.

Regarding Claim 11

As was clarified before, the Greef patent does not contain Criterion Entities, and this claim is directed towards Criterion Entities, with the purpose to help the user to more easily distinguish them from Category Entities and Instance Entities. Therefore this claim should be considered to be different from the processes disclosed in the Greef patent.

Regarding Claim 12

Greef, col 19 lines 36-51: Applicant considers that the process disclosed by the Greef patent is the opposite to what is described in claim 12.

- The process in the Greef patent is directed towards selecting tabular records and importing them into the hierarchical structure.
- The process in the current application is directed to identify objects (records) that are already existing in the hierarchical structure.

Additionally, applicant requests the Examiner to take into account to review the newness of this claim in light of the new wording of claim 1 and of the explanation given about it.

Remarks according to Objection 14

(Several claims were objected under U.S.C. 103(a) as being unpatentable over by Greef et al in view of Szabo (US Pat 6,868,525)

(The analysis of the objections will be carried out upon the system claims. Applicant considers that the same reasoning can be applied to the method version of those claims)

Regarding Claim 13

The main difference between the procedure disclosed in this fragment of the Szabo patent and the classification procedure claimed in the current application are described below:

Szabo, col 39 lines 3-15: The character strings used in Szabo, such as “baseball” or “sports” are general keywords used for retrieving the searched objects. These words are similar to the classification codes mentioned in the claim. However, said classification codes used in the claim do not necessarily have semantic content, while the words used by Szabo do have semantic content. This is a first difference: a user could not use the Szabo procedure if the classification string had no semantic content: i.e. the Szabo procedure could not be utilized if it makes use of the classification codes described in the current patent application.

Szabo, col 39 lines 3-8, and col 37 line 66 to col 38 line 13.: The Szabo patent does not explicitly describe how the classification strings are associated to the searchable objects. However, it can be inferred from the patent that this is done through indices. This is supported by the numerous references to indices, such as in col 23 line 14, col 33 line 57, col 38 lines 60 and 62, col 39 line 58, col 46 line 16 and 39, col 47 line 9 and line 13.

An index is characterized by the following:

1. It uses a table whose entries are the possible classification strings (each record belongs to one classification string)
2. A number of objects are associated to each classification string (i.e. to each record)
3. When the user performs a query on a classification string, the system gets the record assigned to that classification string, and returns the objects that are associated to it.

4. The process is repeated and the results combined, when the query is a boolean expression comprising several classification strings.

The procedure disclosed in the current patent works in the opposite way.

1. It links the classification strings that are associated to an object, and
2. It stores the classification strings in the record that belongs to the object.

The procedure in the current patent application concatenates the classification codes. For example, if the codes are "11", "35" and "32", the concatenation might be "11.35.32". The Szabo patent does not disclose a process like this one.

What Szabo discloses in this paragraph is related to how queries are built. This is the part that is similar to the current application, but applicant considers that the rest of the claim is significantly different. When a query is to be performed using those classification strings, the internal query in the system might be " 11 OR 35 AND 32", which is similar to the possible result in Szabo "sports AND bats"

However, it must be emphasized that the specific process disclosed in the current application, which is related to concatenation, is very different from the processes disclosed in Szabo.

Szabo, col 47 line 37-43 and col 47 lines 51-63: The main difference between claim 13 and the Szabo patent is that the Szabo patent does not disclose the utilization of separating characters for separating the classification codes.

Szabo, col 23 line 55-59: The Szabo patent discloses the storing of a preference profile for the user, and this profile is utilized to guide his/her searches. However, the current application does not disclose the utilization of a user's preference profile.

Furthermore, as was mentioned before, the Szabo patent does not disclose the mechanisms utilized in the current application by which searchable objects (instance entities) are associated with classification strings.

In fact, given that the Szabo patent seems to use an index, its mechanism for carrying out searches is different from the mechanism utilized in the current application.

1. In the Szabo patent there is a table whose entries (records) are strings taken from the objects, and different objects are assigned to each string.
2. In the current patent application, the entries of the record are the searchable objects themselves, and it is the classification strings that are assigned to them.

Regarding Claim 14

Szabo, col 17 line 47-53, and col 38 line 58 to col 39 line 15: This fragment of the Szabo patent describes how performing searches on a tree of concepts can be useful for the user, but it does not disclose how the specific search process is to be carried out.

Because the Szabo patent is based on an index, it is assumed that the actual search is carried out by exploring the records assigned to the different classification strings.

The search in the current patent application is performed in a very different way. It is carried out by searching the records assigned to the objects themselves, by exploring the fields associated to the classification strings. It can be seen that the process is precisely the opposite.

Remarks on references not relied upon in the Office Action

US Patent Application US 2005/0065955 (the Babikov application)

This patent application is directed to solving a problem in the same technical area as the current patent application, therefore it has some similarities with the current application. However, it also has important differences, as will be seen in this analysis. This analysis will show the differences between both applications and the advantages of the current application.

There are three important differences between the Babikov application and the current application. These three differences are not identified by a specific name in any of both patent, but in this analysis they will be given a name to facilitate the exposition. These three differences are:

1. Criteria replication

2. Criteria flooding
3. Criteria emphasizing

Criteria replication:

The nature of this feature is to assign the same criteria node to different positions in the tree, as can be seen in Figure 12 in the Babikov application. This will be explained in more detailed in this analysis.

For example, imagine that we have the following classification for nouns, in which there are three basic criteria that can be applied to all nouns:

1. "According to nature" (indicated with numeral 100),
2. "According to meaning" (indicated with numeral 200), and
3. "According to countability" (indicated with numeral 300).

The criterion nodes will be shown with a text starting by "According to", and they will be underlined. The "+" and "-" signs indicate whether the nodes are collapsed or expanded. Expansion and collapsing signs were not used in the specification of the current application because they were not necessary to explain the invention; however, they are necessary for this analysis.

The Exhibit shows this possible classification, in which all criteria nodes are collapsed. As can be seen, the three criteria can be applied to all categories and instances in the Noun group.

Exhibit B1

- Noun

- + According to nature (100)
- + According to meaning (200)
- + According to countability (300)

In order to see what Criteria Replication is, Exhibit B2 shows a new view on this classification, in which some nodes are expanded. An instance node (.hammer.) is also

shown in different positions to facilitate the exposition. It is understood that there might be many more instance nodes, category nodes or criterion nodes in the classification, but they are not shown to facilitate the exposition.

Exhibit B2**- Noun****- According to nature (100)**

- + Entity (500)

- + Attribute (600)

- + Event (700)

- According to meaning (200)

- Has utilization (400)

- According to nature (100b)

- Entity (500b)

- .hammer. (800-1)

- + Attribute (600b)

- + Event (700b)

- According to countability (300b)

- + Countable

- + Uncountable

- + Has function

- + Has relationship

- + Other

- According to countability (300)

- + Countable

- + Uncountable

It can be seen that the criterion nodes 100 “According to nature” and 300 “According to countability” have been replicated in position 100b and 300b respectively, under the category “Has utilization”.

This can be done because those two criteria (along with criterion 200 "According to meaning") can be applied to all categories and instances in the Noun group, as was stated in Exhibit B1. This is to say that instances such as .hammer. could appear both in the branch that is headed by 100 "According to nature" or in the branches headed by the other two criterion nodes.

Only two of the three criteria are replicated, because they are replicated in a branch that depends already on the third criterion (200 "According to meaning"). It would not make sense to replicate a criterion node within itself.

It can be seen that the instance node .hammer. appears in position 800-1. It is placed in that position because it is an "Entity" and it also "Has utilization", which means that it belongs both to category "Entity" (500 and 500b) and to category "Has utilization" (400). Within category 400 "Has utilization", it is placed under the category 500b "Entity".

The instance ".hammer." is not explicitly shown under the category 500 "Entity" because that category node is collapsed. The category is collapsed in order to more clearly show the feature of Criteria Replication, as will become clearer in the next paragraphs.

As can be seen, the main fact in this classification is that it replicates criterion nodes in different positions.

It can be seen that a similar classification as that one could be created according to the current invention, without Criteria Replication. It would be fully functional, as shown in Exhibit B3.

Exhibit B3

- Noun

- According to nature (100)

- Entity (500)

.hammer. (800-0)

+ Attribute (600)

- + Event (700)

- According to meaning (200)

- Has utilization (400)

- .hammer. (800-1)

- + Has function

- + Has relationship

- + Other

- According to countability (300)

- + Countable

- + Uncountable

It can be readily seen in Exhibit 3 that the criteria nodes have not been replicated. In this Exhibit, instance “.hammer”. is shown in both positions 800-0 and 800-1. As mentioned before, “.hammer.” is both an “Entity” and “Has utilization”, so it belongs to both categories.

The feature of criteria replication is best described in the Babikov application in paragraph 0177, where it is stated that “If an available free criterion is not used for a specialization, it will stay available at the next specialization level, thereby appearing again in the list of free criteria”.

Even though this is a small classification, which is intended only for explanatory purposes, it can be easily seen that Exhibit B3 is easier to handle, and it clearly shows that “.hammer.” belongs to categories that are created under different criteria.

Criteria Replication has the purpose of showing to the user what instances belong to categories that belong to different criteria (in this case, “Entity” and “Has utilization”). However, even though it does it at the cost of higher complexity and difficulties for the user, as can be easily seen.

The current invention allows the user to see exactly that with a different approach which does not require to increase the complexity of the classification by using criteria replication

-
- Figure 12: This Figure shows a tree interface that is created to utilize the invention. It contains criterion nodes and branch nodes. As indicated in paragraph 0177, criterion nodes have an icon that is represented by a pair of vertical arrows, and branch nodes have an icon that is represented by a horizontal arrow. It can be seen that no branch node is the child node of any other branch node. There is always a criterion node between two branch nodes..
 - Paragraph 0086: These paragraphs introduce the description of specific embodiments, and their content is applied to all embodiments. As stated in the paragraph, each criterion creates a denumerable set of more specific subcategories. Nothing is said about branches creating a denumerable set of more specific branches.
 - Figure 13: Where again it can be seen that criteria are inserted between any pair of branch nodes.
 - Figure 16: Where, again, there is a strict alternation between criteria and branches.
 - Figure 3 and paragraph 0031: This Figure relates to faceted classifications, discussed as prior art. In the Figure, two boxes show category nodes that are parent of other category nodes (nodes 320 and 316). However, this is not considered in the invention of the application. Moreover, the application explicitly states that faceted classifications have a number of important disadvantages: "Unfortunately, faceted classifications include a number of limitations".
 - Paragraph 0122-0124: This paragraph says that a criterion partitions a set A into mutually disjoint categories A(i) (associated to attributes and branches). If some categories were child nodes of other categories, they would not be disjoint, because the child ones would be included in the parent one.
 - Figures 11, 14, and 15: This Figures describe alternative data models that support the invention. Nothing in this data model suggests that some branches/attributes can be parent nodes of other branches/attributes.
 - Paragraphs 0161-0167: These paragraphs describe what categories are to be stored in different embodiments, and nothing is said about some categories being child/parent nodes of other categories.
 - Paragraph 0124: This paragraph defines the cardinality of a criterion as the number of branches it has. Nothing is mentioned about branches having branches itself.

-
- Figures 17 and 18: At first, it might seem that Figure 17 indicates that the invention includes cases in which branch nodes can be parent of other branch nodes. But the description of these Figures proves otherwise (paragraphs 0316 and 0317). Figure 17 is just an arbitrary classification taken as example. Figure 18 indicates that this classification could be created using three criteria. However, the last three lines in paragraph 0317 indicate that Figure 17 is to be represented as a classification in which a composite criterion generates four branches. Therefore, a criterion is supposed to exist between box A and boxes B1, B2, B3 and B4, despite it is not represented.

Criteria emphasizing

Criteria emphasizing is a feature used to assist the user to easily distinguish criterion nodes from category nodes. In the current patent application, criterion nodes can be emphasized by:

1. Inserting a specific text string, such as “According to “
2. Modifying the format of the text, either in color, underline, and so on

In the Babikov application, the only means used to emphasize the criterion nodes is the utilization of a different icon.

Discussion about the differences between the Babikov application and the current application.

Criteria Replication and Criteria flooding are features which are inherent in the Babikov application. They are intrinsically related to their approach to solve the multicriteria problem in such a way that the classification is “uniquely defined with a minimum of information”. This can be seen in the next paragraphs:

- Paragraphs 0154 and 0161: Explains how with a minimum amount of information stored in the database, the polyhierarchy is induced, i.e. uniquely defined.
- Paragraph 0174: In this paragraph, it is stated that “Unlike with conventional classification methods, the supplementary software does not depend on application-specific features of the polyhierarchical classification and the complexity of the classification”.

- Paragraphs 0320-0325: These paragraphs discuss several advantages of the invention, including compactness of descriptive data, flexibility of the classification and increased efficiency of interfaces.

In general, a stated goal of the Babikov application is to provide a simple system that does not require unnecessary multiplicity of trees and nodes nor cumbersome actions.

However, Criteria Replication, Criteria Flooding and the absence of Criteria Emphasizing are problematic for the user. This is to say, they are probably useful in order to create a system that uniquely defines the classification with a minimum of information. But on the other hand, they create concomitant problems for the user, in terms of an increase in nodes. Hence, creating a classification system that does not impose Criteria Replication and Criteria Flooding would be valuable for the user. This is the case described in the current patent application.

The following paragraphs show how the Babikov application is directed to building a simple system for the user. They strongly indicate how creating a polycriteria classification system without Criteria Replication and Criteria Flooding is a price they that the invention in the Babikov application has to pay. And that shows that creating a classification system without Criteria Replication and Criteria Flooding is new and non obvious.

- Paragraphs 0020,0021: “Another disadvantage of tree structured classifications relates to fast multiplication of sub-trees with increases in simultaneously applicable criteria”. However, both Criteria Flooding and Criteria Replication increase the number of subtrees and the number of nodes.
- Paragraph 0025: This paragraph discusses the disadvantages of directed acyclic graphs, and states that “resolve the predefined path problem at the expense of an even more dramatic increase in the amount of descriptive data”. However, again, both Criteria Flooding and Criteria Replication increase the number of subtrees and the number of nodes.
- Paragraph 0031-0032: These paragraphs describe the complexity problems of Faceted Knowledge Representation approaches, which “involve cumbersome mathematical constructions” and “become exasperating for the developer... and does not offer a clear

logical approach to building classifications”. It is assumed that a goal of the Babikov application is to provide an invention that overcomes these problems.

All this shows that, given the goals of the Babikov application, if building a system without Criteria Replication and Criteria Flooding was obvious, they would have done it, because it creates more simplicity for the user.

Furthermore, if adding Criteria Emphasizing was obvious, they would have add it, because it also helps the user to achieve a simpler interface.

Remarks on additional references not mentioned in the Office Action

Some other references that share some characteristics with the current application have become known to applicant in the last months. Below they are briefly analyzed and the advantages and differences of the current application over those applications are shown.

US Patent 6,760,721 (Chasen et al)

This patent discloses a system and method for managing metadata data. In particular, it is directed to managing data related to a music library.

In Figure 1 in the patent, they show the user interface utilized to embody the invention. It can be seen in the Figure that they use two different types of nodes in structure 124 which are similar to the nodes used in the current application:

1. Nodes labeled “Artist”, “Album” and “Genre”. This nodes are very similar to the criterion nodes of the current application.
2. Nodes labeled “Classical”, “Pop”, “Rock”. This nodes are very similar to the category nodes of the current application.

The main differences with the current application are that the current patent application discloses the following:

1. Placing criterion nodes at any level, where the criterion nodes might have category nodes as parents. In contrast, in the Chasen patent, the criterion nodes are located at the uppermost level. Diagrams in columns 11, 12 and 13 in the Chasen patent show that the invention does not disclose placing Criterion nodes at intermediate positions. However,

placing criterion nodes in order to subclassify instances belonging to any category is a very useful tool, as described in the current patent application. However, it is not something obvious at all. If it was obvious, the Chasen patent would include it.

2. Locating the criterion nodes as child nodes of other criterion nodes. This is also a very useful tool for aggregating criteria that share some characteristics. Again, if it was obvious, the patent would allow to do that.
3. Emphasizing criterion nodes with some distinguishing text/font type/text characteristics (such as bold or underlined text) in order to facilitate the utilization of the invention. In the Chasen patent, criterion nodes can be distinguished merely by the fact that they have a different type of icon. Once again, if it was obvious, the patent would disclose it.

US Patent 6,167,396 (Lokken)

This patent discloses a system for managing points in multidimensional databases. A multidimensional database shares some features with multicriteria classifications. This can be seen in Figure 3 in the Lokken patent. The dimensions (Time, Customers, Regions, and Products) are similar to criteria. However, they are not really criteria, because they are not used to organize categories and subcategories.

This patent would be similar to the Chasen patent (US 6,760,721) if Figure 3 was integrated with Figure 4A, 4B, 4C and 4D. This integration would generate a classification similar to the one showed in the following Exhibit. It can be seen that it is very similar to the tree showed in the Chasen patent, except that the categories contain different subcategorize.

Exhibit

- Dimensions

- Time

+ 1997

- 1998

+ Quarter 1

+ Quarter 2

- Quarter 3

July

August

September

+ Quarter 4

- Customers

+ Direct

+ Indirect

+ Regions

- Products

+ Accessories

+ PCs

+ Services

This patent provides a useful technique for navigating multidimensional databases (that is to say, multicriteria classifications). However, they do not get to the point of integrating dimensions (criteria) with categories, even though it would be a very useful invention. This shows that integrating those types of entities is not obvious at all (or at least, it was not obvious at the time).

CONCLUSION

For all the above reasons, applicant submits that the specification and claims are now in proper form, and that the claims define all define patentably over the prior art. Therefore they submit that this application is now in condition for allowance, which action they respectfully solicit.

Conditional Request for Constructive Assistance

Applicant has amended the specification and claims of this application so that they are proper, definite and define novel structure which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, applicant respectfully request the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. §2173.02 and §707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully

Angel Palacios

Applicant Pro Se

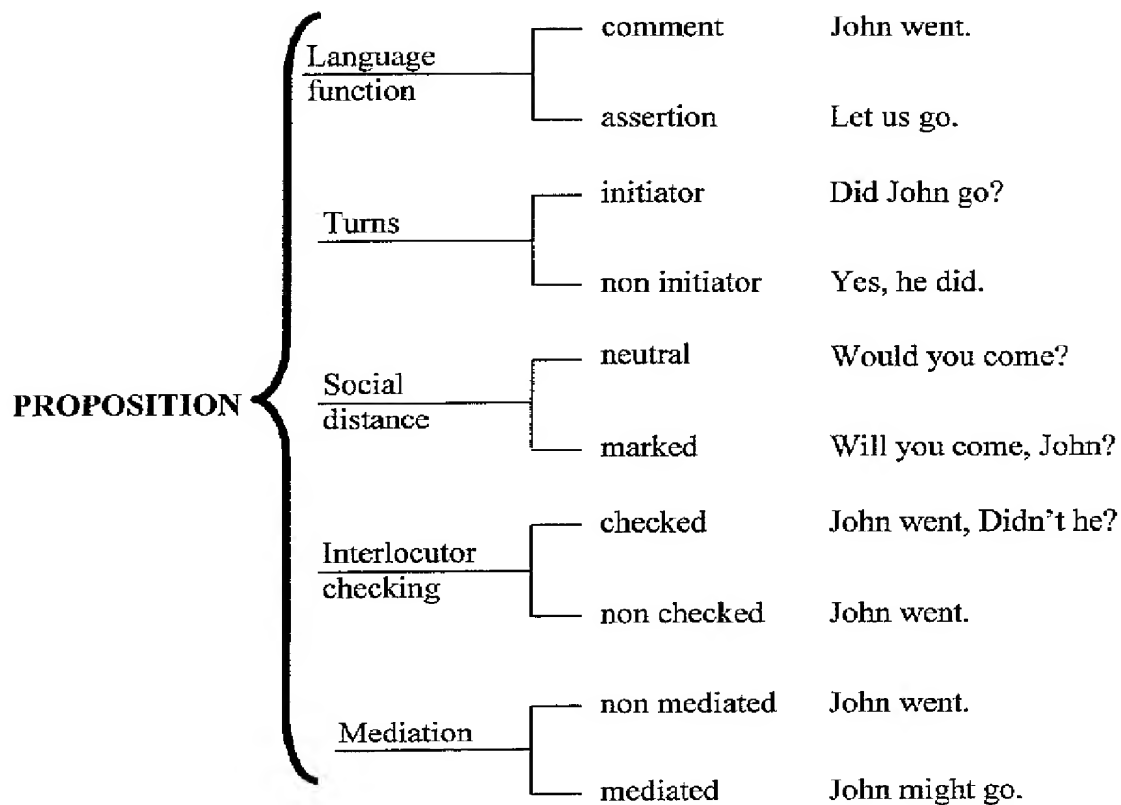
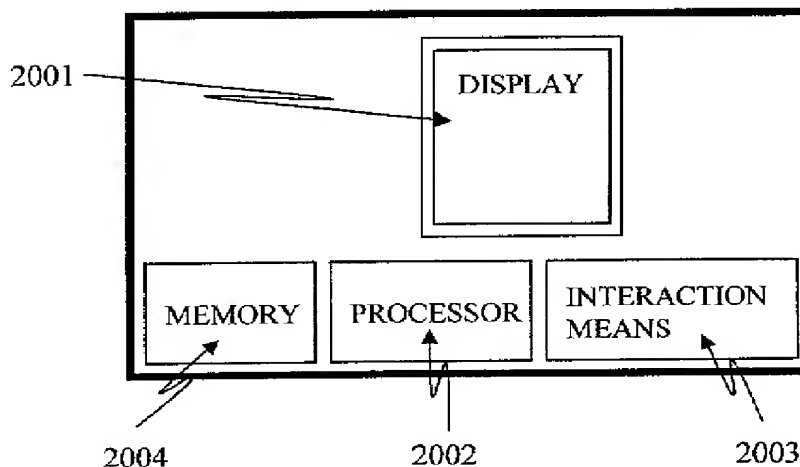
Mendez Alvaro 77, portal 4, piso 4B

28045 Madrid

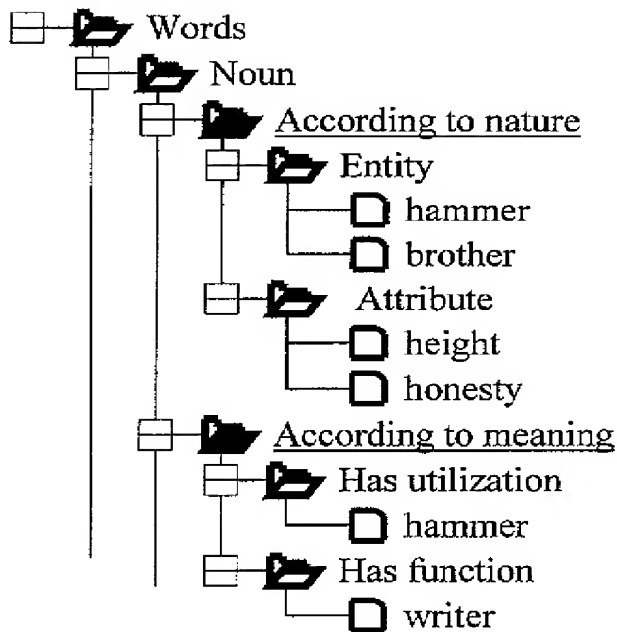
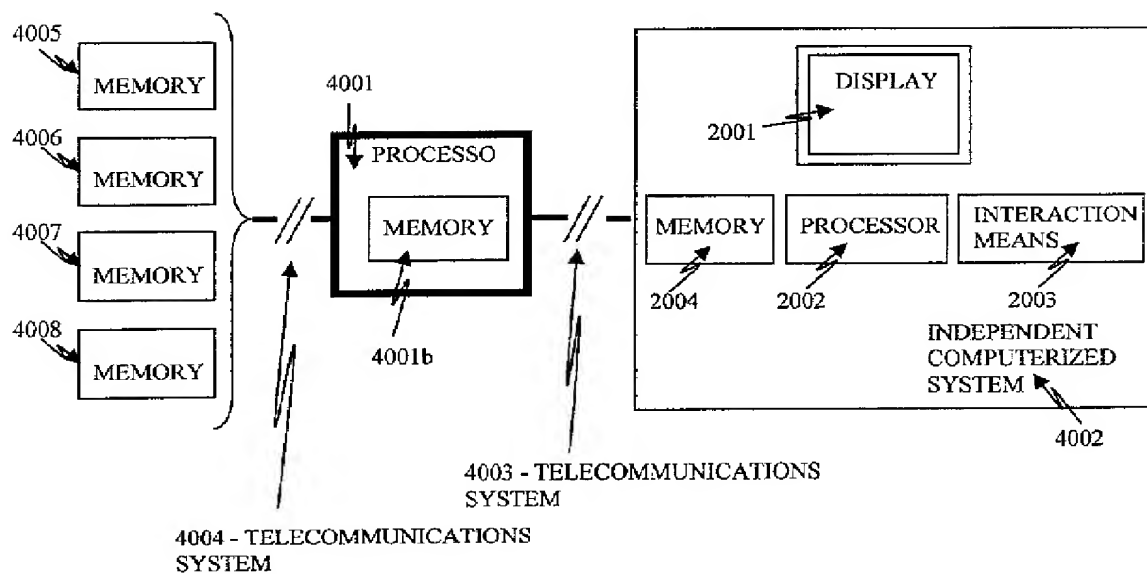
Spain

Tel + 34915270522 (fixed), +34607575567 (cell) Fax: +34915318416

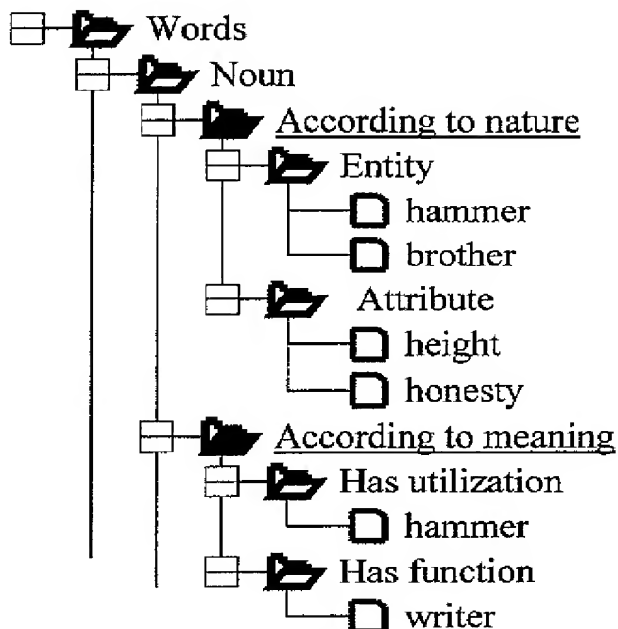
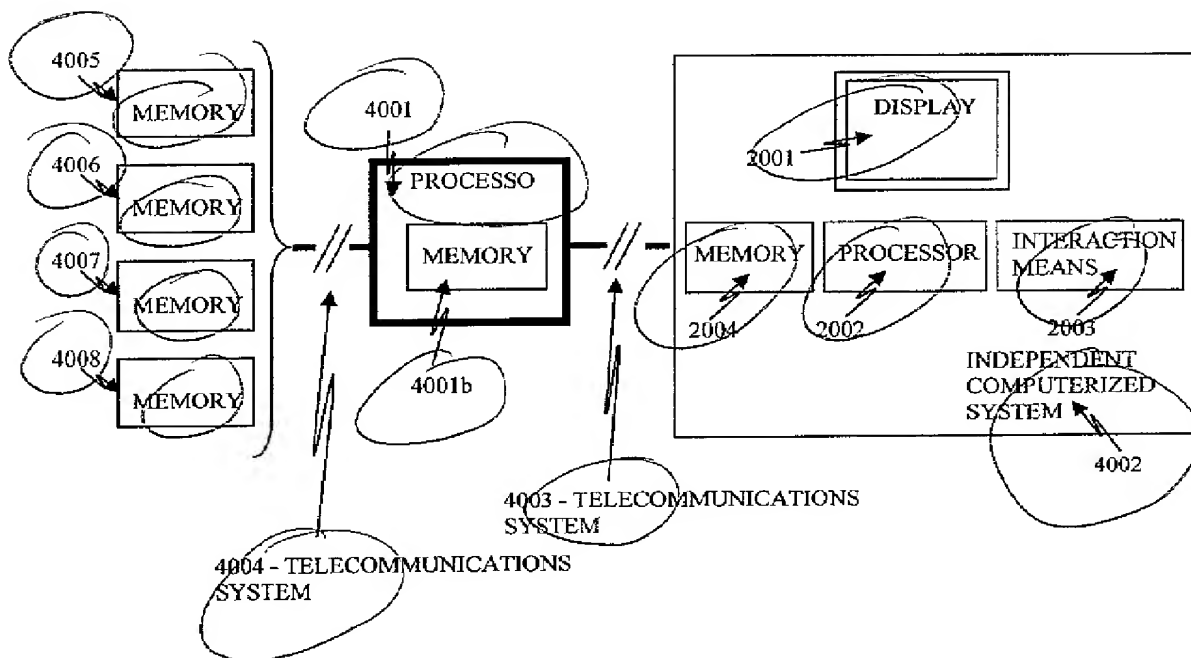
1/2

FIGURE 1**FIGURE 2**

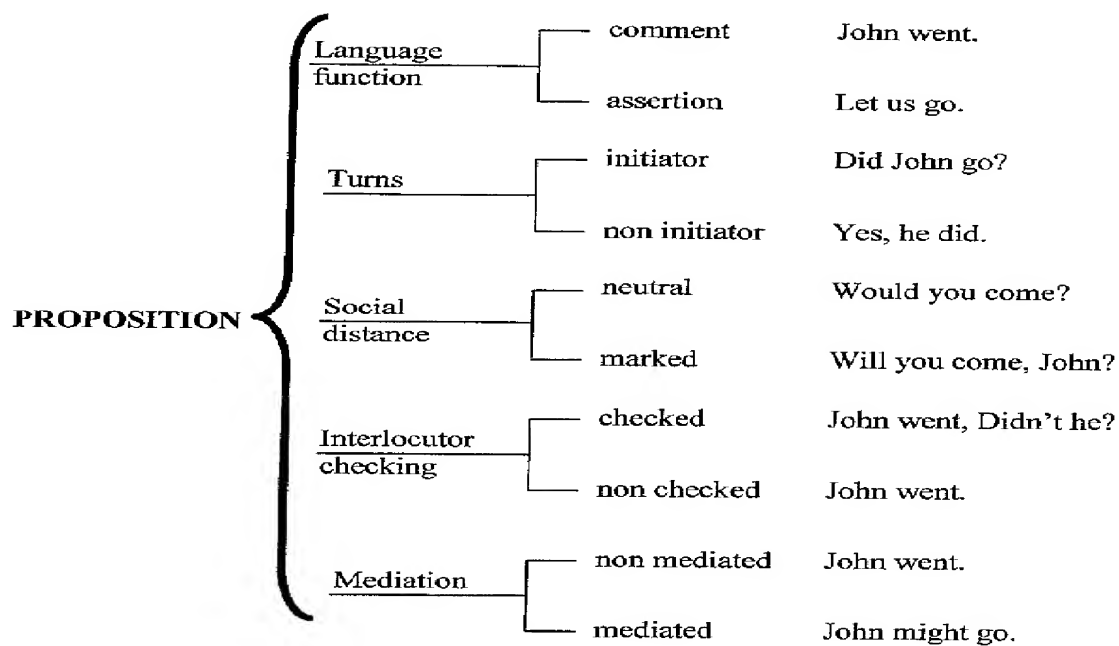
2/2

FIGURE 3**FIGURE 4**

2/2

FIGURE 3**FIGURE 4**

1/2

FIGURE 1**FIGURE 2**